

Flora of Manila

In no place in the tropics has botanical work made such great strides as in the Philippines. This is particularly true of the systematic botany work of the Bureau of Science under the energetic direction of ELMER D. MERRILL. Until recently no effort had been made to collect the numerous taxonomic papers into a flora for any particular region. *The flora of Manila*² is not a sufficiently comprehensive title, because the work really covers the flora of the more populated coastal regions of the entire archipelago. About 1000 species, or approximately one-sixth of the total number of species known from the islands, are described. These are distributed among 591 genera and 136 families.

The bringing together under one cover of one-sixth of the known flora of the Philippines will make useful a large number of descriptions of plants that heretofore have been practically inaccessible to anyone except the specialist. The usefulness of the work to the layman is enhanced by definition of terms used in descriptive botany (pp. 9-20), some remarks on classification (pp. 20-21), directions for preparing botanical specimens (pp. 21-23), some remarks on the preparation of the material for the herbarium (pp. 24-25), and a glossary of technical terms (pp. 25-33).

The flora includes practically all the species of vascular cryptogams and flowering plants growing naturally within the Manila district, and most of the cultivated forms both of Philippine and of foreign origin. In it one can find descriptions of nearly all the useful and ornamental plants of the Islands, except the timber trees.

It is to be hoped that the recent reorganization of the scientific staff of the Bureau of Science will not materially interfere with progress in this kind of work. Another five years ought to bring forth a flora of the Philippine Islands.—H. N. WHITFORD.

A plant physiology

A plant physiology by KOLKWITZ³ offers several features that are novel for a book bearing its general title. Unusual emphasis is given to the lower forms; 60 pages are devoted to the physiology of "phanerogams" and almost 200 to the study of "cryptogams." This change of emphasis has the advantage of bringing into prominence such cosmic cycles as the nitrogen cycle without in any way detracting from an understanding of other physiological processes. The book, however, can hardly be called a plant physiology. It contains many

² MERRILL, E. D., *The flora of Manila*. pp. 490. Bureau of Science, Manila. 1912.

³ KOLKWITZ, R., *Pflanzenphysiologie, Versuche und Beobachtung en an höheren und niederen Pflanzen einschliesslich Bakteriologie und Hydrobiologie mit Planktonkunde*. V. 8vo. pp. 258. pls. 1-12. figs. 116. Jena: Gustav Fischer. 1914.